

**A. Status of the Claims**

Claims 20-21, 25-27, and 32-51 are stated to be pending in the text of the Office Action. However, the summary of the Office Action does not include claim 21 as pending. Applicants also note that claim 21 was previously cancelled, in the response filed in October 2004. This response is written assuming that where the present action refers to claim 21, claim 20 is meant instead. Clarification is however respectfully requested.

Claim 20 is amended and new claim 52 is added. Support for the amendment of claim 20 is found at page 54, lines 12-16; and in Example 6 at page 69, lines 5-20. Support for claim 52 claim is found in the specification, for instance at page 69, lines 7-20. No new matter is added by this amendment. Thus, claims 20, 25-27, and 32-52 are presented for reconsideration.

**B. Rejection of Claims Under 35 U.S.C. §112, First Paragraph**

The Action rejects claims 21 (i.e. presumably 20), 25-27, and 32-51 under 35 U.S.C. §112, first paragraph, as not reasonably providing enablement for decreasing the drug resistance in a plant by contacting the plant with any possible compound to inhibit ecto-phosphatase. Applicants respectfully traverse.

The present claims are not directed toward isolation of ecto-phosphatase inhibitors or predicting their structure. Rather, they are directed toward a method for using them. Numerous compounds (e.g. Formulas I-XIX) are provided that have demonstrated ecto-phosphatase inhibitory activity. The present specification also discloses the use of  $\alpha$ - $\beta$  methyleneadenosine 5' diphosphate as a phosphatase inhibitor (page 69, lines 7-20; and figure 12). Indeed, a reference of Thomas et al., authored by most of the present inventors and published after the priority date of the present application (reference C33 in the supplemental IDS filed on May 15,

2003), discloses that vanadate and  $\alpha$ - $\beta$  methyleneadenosine 5' diphosphate are additional phosphatase inhibitors that affect sensitivity of cells to xenobiotics (e.g. see page 523, left column; page 526, left column, and figure 5E), further supporting the principle that ecto-phosphatase inhibitors may generally be used in the manner claimed.

The specification discloses that ecto-phosphatase activity is involved in modulating drug resistance (e.g. figures 3, 4, 6, and 12; and examples 4 and 6), and, for instance, at page 69 and following, provides data on use of  $\alpha$ - $\beta$  methyleneadenosine 5' diphosphate to decrease drug resistance. A concurrently filed inventor's declaration under 37 C.F.R. § 1.132 (Appendix A) provides additional data describing the effect of additional ecto-phosphatase inhibitor compounds in decreasing herbicide resistance when used in conjunction with several active ingredients on a range of weed species. Because several figures in the faxed copy of the inventor's declaration are not legible, a clean copy of the declaration is also provided (Appendix B). The data provided in the inventor's declaration demonstrates that application of an ectophosphatase inhibitory compound in conjunction with an active ingredient enhances the efficacy of the active ingredient in controlling weeds. For instance, use of Resistox 2 (Formula I) increased the control afforded by low rates of atrazine when applied to barnyardgrass (*Echinochloa crusgalli*) and other weed species, in greenhouse and field tests. The specification provides sufficient guidance to one of skill in the art to enable the practice of decreasing drug resistance in a plant cell, and the declaration further demonstrates the efficacy of this method.

Enablement is satisfied as long as at least one method is provided for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claims. In view of this standard, the teachings presented in the specification, and the enclosed declaration, Applicants respectfully submit that the full scope of the claims has been enabled. In fields such

as this where the art typically engages in experimentation, even complex experimentation is not necessarily undue. Applicants respectfully submit that claim 20 and claims dependent from it are properly enabled, and respectfully request that the rejection be withdrawn.

**C. Rejections Under 35 U.S.C. §102(b)**

The Action rejects claims 20, 25 and 26 under 35 U.S.C. §102(b) as being anticipated by Bernatskaya et al. (Fiziologiya i Biokhimiya Kul'turnykh Rastenii (1976) 1:25-29). A Russian language reference with English abstract and a database summary were provided with the action. However, a complete translation of the cited reference was not provided.

The rejection is made based on the assertion that the reference teaches that an aluminum compound inhibited surface phosphatase activity of pea roots. In response, Applicants respectfully traverse.

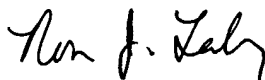
Firstly, the current claims are clearly directed to a method of inhibition of drug resistance in plant cells; while the cited reference does not relate to this subject matter. In order to form an anticipation rejection the prior art must specifically teach all elements of the claims. An element of the claims is missing from the prior art. Thus, Applicants respectfully submit that the cited reference does not anticipate the present claims. Applicants submit that the rejection is improper and removal of the rejection is thus respectfully requested.

Secondly, the complete translated reference was not provided, and the actual content of the relied upon reference is unclear. Therefore, should the present rejection be maintained, or any future rejections be made based on the cited reference of Bernatskaya et al., Applicants respectfully request that the Action be made non-final, and a copy of an English translation of the entire reference be provided.

**D. Conclusion**

In light of the foregoing, applicants submit that all claims are in condition for allowance, and an early indication to that effect is earnestly solicited. The examiner is invited to contact the undersigned at (512)536-3131 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



Ron J. Laby  
Reg. No. 53,173  
Agent for Applicants

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701  
(512) 474-5201

Date: August 4, 2005